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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/812,963

03/31/2004

Kazufumi Tanoue

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24257 7590 01/24/2007  
STEVENS DAVIS MILLER & MOSHER, LLP  
1615 L STREET, NW  
SUITE 850  
WASHINGTON, DC 20036

EXAMINER

CHASE, SHELLY A

ART UNIT

PAPER NUMBER

2133

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/812,963

Applicant(s)

TANOUE, KAZUFUMI

Examiner

Shelly A. Chase

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-8 is/are allowed.
- 6) ☒ Claim(s) 1-3,9 and 11 is/are rejected.
- 7) ☒ Claim(s) 10 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

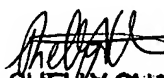
- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3-31-2004.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

  
**SHELLY CHASE**  
**PRIMARY EXAMINER**

### **DETAILED ACTION**

1. Claims 1 to 12 are presented for examination.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119, which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The references listed in the information disclosure statement submitted on 3-31-2004 have been considered by the examiner (see attached PTO-1449).

#### ***Drawings***

4. Figures 13 and 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Objections***

6. Claims 1 to 12 are objected to because of the following informalities: please correct the seemingly antecedent basis errors. For instance, "the arrangement" recited on line 3, "the data elements" recited on line 4, etc.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1 to 3 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2, recites the limitation "the sequence of said data elements", there is insufficient antecedent basis for this limitation in the claim. Claim 12 has a similar problem.

Claim 3 recites the limitation "a step of computing the OR of said first word" on line 22 and recites "a step of storing said OR at the address" on line 24. There is insufficient antecedent basis for the limitation on line 23 as well it is not clear. The examiner is not sure if applicant is referring to computing an OR logic function and if the computed function is stored.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior art (APA), specification pages 2 to 3.

Claims 9 and 11:

**APA** substantially teaches the claimed invention, APA teaches an interleaving apparatus (fig 13) comprising: data storage means (10), and access information supply means (20) wherein the data storage means stores reception data, interpreted as "said first data and said second data". APA also teaches that the access information supply means stores address information and bit position information wherein the address

information is output to the third pointer and 1-word data is read from the address designated by the third pointer, which reads on "said address information designates the address of word data..."

APA further teaches that the access information supply means supplies bit position information to a control means wherein when the data element stored in the latch is 0, the corresponding 1- word data is based on the designated bit position output by the control means, which reads on "said bit position information designates the bit position of the data element to be processed in said word data..." The claims differ from APA by specifically teaching that the arrangement of data elements of said second data is different from the arrangement of data elements of said first data; however this limitation is not novel over the APA since both the inventions as a whole are directed to an interleaving apparatus utilizing the same components and arraignment of data elements would be an obvious design choice.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the interleaving apparatus of APA to include arranging the data element from the second data differently with the data element from the first data since it is known in the art that various forms of interleavers with different structures are designed and used in the art for the application to which they are applied. This modification would have been obvious because a person of ordinary skill in the art would have been motivated to design an interleaver where the data element of the second data is different form the data element of the first data because this process

only involves routine skill in the art and it is a matter of design choice that will not present new and unexpected results to the claimed invention as a whole.

***Allowable Subject Matter***

11. Claims 10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 1 to 3 would be allowable once the 112 second paragraph rejection is overcome.

13. Claims 4 to 8 are allowed.

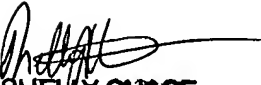
14. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the allowance of the claims is the inclusion of the limitation of the data selection means for receiving the word data read from the address (claim 4) and the data expansion means for sequentially expanding said data element shifted out sequentially from said shift register on the basis of said bit position information to word data and for outputting said word data (claim 7). The prior art made of record taken alone or in combination fails to teach or fairly suggest the novel element of the instant invention.

***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A. Chase whose telephone number is 571-272-3816. The examiner can normally be reached on Mon-Thur from 8:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
SHELLY CHASE  
PRIMARY EXAMINER